

B² 2(Amended). A scintillator element according to claim 1 wherein said solid scintillator material comprises any of, a plastic, an inorganic phosphor, an oxide based material, a glass or a combination of these materials.

Please replace claim 6 with the following amended claim.

B³ 6(Twice Amended). A scintillator element according to claim 1 wherein said hygroscopic material is selected from the group consisting of zinc chloride, potassium acetate, phosphoric acid and lithium chloride.

Please replace claims 14 and 15 with the following amended claims.

B⁴ 14(Amended). A method according to claim 13 which container additionally includes an outlet to allow passage of said gas therethrough.

15(Twice Amended). A method according to claim 9 wherein the light emitted by said hygroscopic scintillator is measured remotely by measuring means spatially separated from said hygroscopic scintillator, but optically connected thereto.

Please replace claims 17 and 18 with the following amended claims 17 and 18.

B⁵ 17(Twice Amended). A method according to claim 15 wherein said measuring means comprises one or more photomultiplier tubes, multichannel plates or photodiodes.

18(Amended). A method according to claim 17 wherein the rate of signal pulses from said measuring means is measured and used to indicate the tritium radiotoxicity of said gas, and/or its tritiated water activity, on a meter, a digital display as an audible signal, and/or as an output to a computer, data logger, recorder, or control system.

Please replace claim 33 with the following amended claim.

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B4 33(Twice Amended). Apparatus according to claim 31 wherein the time averaged output of said measuring means is measured as a continuous current, and used to indicate the tritium radiotoxicity of said gas on a meter, a digital display as an audio signal, and/or as an output to a computer, data logger, recorder, control system.

Please add the following new claims to the application.

B7 40(New). A scintillator element according to claim 1 wherein said solid scintillator material is doped zinc sulphide.

41(New). A method according to claim 16 wherein said measuring means comprises one or more photomultiplier tubes, multichannel plates or photodiodes.
